

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
25 March 2004 (25.03.2004)

PCT

(10) International Publication Number  
**WO 2004/024320 A1**

- (51) International Patent Classification<sup>7</sup>: **B01J 27/14**,  
B01D 53/36 // (B01J 27/16, 21:04, 27:14)
- (21) International Application Number:  
PCT/KR2003/001081
- (22) International Filing Date: 2 June 2003 (02.06.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
10-2002-56218 16 September 2002 (16.09.2002) KR
- (71) Applicant (for all designated States except US): **KOREA RESEARCH INSTITUTE OF CHEMICAL TECHNOLOGY** [KR/KR]; 100 Jang-dong, Yusung-gu, Daejeon 305-600 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **PARK, Young-Ki** [KR/KR]; 119-302 Hanbit Apt., Uheun-dong, Yusung-gu, Daejeon 305-755 (KR). **JEON, Jong Reol** [KR/KR]; 109-1602 Hanwool Apt., Sinsung-dong, Yusung-gu, Daejeon 305-345 (KR). **KIM, Hee Young** [KR/KR]; 101-203 Hanbit Apt., Uheun-dong, Yusung-gu, Daejeon 305-755 (KR).
- (74) Agent: **HUH, Sang-Hoon**; 16th Fl., Woori Investment Bank Bldg., 826-20, Yeoksam-dong, Kangnam-ku, Seoul 135-080 (KR).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CATALYST AND METHOD FOR DECOMPOSITION OF PERFLUORO-COMPOUND IN WASTE GAS

(57) **Abstract:** The present invention relates to a catalyst for the decomposition of exhausted perfluoro-compounds (PFCs) and a catalytic decomposition method of PFCs by using the same. More particularly, the present invention relates to a PFC decomposition catalyst prepared in such a manner that a surface of aluminum oxide is loaded with phosphorous (P) component at a aluminum/phosphorous mole ratio of 10 to 100 and a decomposition method of PFCs by using the catalyst. The present catalyst can be decomposed PFCs at 100% rate exhausted from semiconductor manufacturing industry and thus prevent the release of PFCs having high global warming potential into atmosphere.

WO 2004/024320 A1